

In the Claims

The claims are not amended herein, but are presented below for convenience:

1-39. (Cancelled)

40. (Previously Presented) A composition comprising:

- a) a first adeno-associated virus vector comprising linked:
 - i) a first nucleic acid segment comprising a 5' -inverted terminal repeat of adeno-associated virus;
 - ii) a second nucleic acid segment comprising a portion of a gene which includes a transcriptional regulatory region;
 - iii) a third nucleic acid segment comprising a splice donor site; and
 - iv) a fourth nucleic acid segment comprising a 3' -inverted terminal repeat of adeno-associated virus; and
- b) a second adeno-associated virus vector comprising linked:
 - i) a first nucleic acid segment comprising a 5' -inverted terminal repeat of adeno-associated virus;
 - ii) a second nucleic acid segment comprising a splice acceptor site;
 - iii) a third nucleic acid segment comprising a portion of a gene which together with the nucleic acid segment of a)(ii) comprises a gene comprising an open reading frame which encodes a functional polypeptide; and
 - iv) a fourth nucleic acid segment comprising a 3' -inverted terminal repeat of adeno-associated virus.

41. (Previously Presented) The composition of claim 40 further comprising a delivery vehicle.

42. (Previously Presented) The composition of claim 40 wherein the nucleic acid segment of a)ii) comprises a promoter.

43. (Previously Presented) The composition of claim 40 wherein the nucleic acid segment of a)ii) comprises an enhancer.
44. (Previously Presented) A method to express a polypeptide in a host cell comprising contacting the host cell with the composition of claim 40 so as to express the functional polypeptide.
45. (Previously Presented) A method to express a polypeptide in a host cell, comprising: contacting a host cell comprising a first adeno-associated virus vector comprising linked:
- a) i) a first nucleic acid segment comprising a 5'-inverted terminal repeat of adeno-associated virus;
 - ii) a second nucleic acid segment comprising a portion of a gene which includes a transcriptional regulatory region;
 - iii) a third nucleic acid segment comprising a splice donor site; and
 - iv) a fourth nucleic acid segment comprising a 3'-inverted terminal repeat of adeno-associated virus;
- with a second adeno-associated virus vector comprising linked:
- b) i) a first nucleic acid segment comprising a 5'-inverted terminal repeat of adeno-associated virus;
 - ii) a second nucleic acid segment comprising a splice acceptor site;
 - iii) a third nucleic acid segment comprising a portion of a gene which together with the nucleic acid segment of a)ii) comprises a gene comprising an open reading frame which encodes a functional polypeptide; and
 - iv) a fourth nucleic acid segment comprising a 3'-inverted terminal repeat of adeno-associated virus;
- so as to yield a host cell which expresses the functional polypeptide.

46. (Previously Presented) A method to express a polypeptide in a host cell, comprising:
contacting a host cell comprising a first adeno-associated virus vector comprising linked:
- a) i) a first nucleic acid segment comprising a 5'-inverted terminal repeat of adeno-associated virus;
 - ii) a second nucleic acid segment comprising a splice acceptor site;
 - iii) a third nucleic acid segment comprising a portion of a gene; and
 - iv) a fourth nucleic acid segment comprising a 3'-inverted terminal repeat of adeno-associated virus;
- with a second adeno-associated virus vector comprising linked:
- b) i) a first nucleic acid segment comprising a 5'-inverted terminal repeat of adeno-associated virus;
 - ii) a second nucleic acid segment comprising a portion of a gene which includes a transcriptional regulatory region and which together with the nucleic acid segment of a)iii) comprises a gene comprising an open reading frame which encodes a functional polypeptide;
 - iii) a third nucleic acid segment comprising a splice donor site; and
 - iv) a fourth nucleic acid segment comprising a 3'-inverted terminal repeat of adeno-associated virus;
- so as to yield a host cell which expresses the functional polypeptide.
47. (Previously Presented) A method to express a polypeptide in a host cell, comprising:
contacting a host cell with a first adeno-associated virus vector and a second adeno-associated virus vector, wherein the first adeno-associated virus vector comprises linked:
- a) i) a first nucleic acid segment comprising a 5'-inverted terminal repeat of adeno-associated virus;
 - ii) a second nucleic acid segment comprising a portion of a gene which includes a transcriptional regulatory region;
 - iii) a third nucleic acid segment comprising a splice donor site; and

- iv) a fourth nucleic acid segment comprising a 3'-inverted terminal repeat of adeno-associated virus;

wherein the second adeno-associated virus vector comprises linked:

- b)
 - i) a first nucleic acid segment comprising a 5'-inverted terminal repeat of adeno-associated virus;
 - ii) a second nucleic acid segment comprising a splice acceptor site;
 - iii) a third nucleic acid segment comprising a portion of a gene which together with the nucleic acid segment of a)ii) comprises a gene comprising an open reading frame which encodes a functional polypeptide; and
 - iv) a fourth nucleic acid segment comprising a 3'-inverted terminal repeat of adeno-associated virus;

so as to yield a host cell which expresses the functional polypeptide.

- 48. (Previously Presented) The method of claim 45 or 47 wherein the nucleic acid segment of a)ii) comprises a promoter.
- 49. (Previously Presented) The method of claim 45 or 47 wherein the nucleic acid segment of a)ii) comprises an enhancer.
- 50. (Previously Presented) The method of claim 46 wherein the nucleic acid segment of b)ii) comprises a promoter.
- 51. (Previously Presented) The method of claim 46 wherein the nucleic acid segment of b)ii) comprises an enhancer.
- 52. (Previously Presented) The method of claim 44, 45, 46 or 47 wherein the host cell is a muscle cell, brain cell, retinal cell, liver cell, lung cell or hematopoietic cell.

53. (Previously Presented) The method of claim 44, 45, 46 or 47 wherein the polypeptide is the cystic fibrosis transmembrane receptor, polypeptide, β -globin, γ -globin, tyrosine hydroxylase, glucocerebrosidase, arylsulfatase A, factor VIII, dystrophin, or erythropoietin.
54. (Previously Presented) The method of claim 44, 45, 46 or 47 wherein the host cell is a mammalian cell.
55. (Previously Presented) The method of claim 54 wherein the host cell is a muscle cell, brain cell, retinal cell, liver cell, lung cell or hematopoietic cell.
56. (Previously Presented) The method of claim 44, 45, 46 or 47 wherein the host cell is selected from the group consisting of an avian cell, a bovine cell, a swine cell, an equine cell, an ovine cell, a canine cell, a feline cell, an amphibian cell, a reptilian cell and a fish cell.
57. (Previously Presented) The method of claim 56 wherein the host cell is a muscle cell, brain cell, retinal cell, liver cell, lung cell or hematopoietic cell.
58. (Previously Presented) The method of claim 44, 45, 46, or 47 wherein the vectors comprise DNA.
59. (Previously Presented) A composition comprising:
a first adeno-associated virus vector comprising linked:
- a) i) a first nucleic acid segment comprising a 5'-inverted terminal repeat of adeno-associated virus;
 - ii) a second nucleic acid segment comprising a portion of a gene which includes a transcriptional regulatory region;
 - iii) a third nucleic acid segment comprising a splice donor site; and

- iv) a fourth nucleic acid segment comprising a 3'-inverted terminal repeat of adeno-associated virus;

which first vector, in the presence of a second adeno-associated virus vector comprising linked:

- b)
 - i) a first nucleic acid segment comprising a 5'-inverted terminal repeat of adeno-associated virus;
 - ii) a second nucleic acid segment comprising a splice acceptor site;
 - iii) a third nucleic acid segment comprising a portion of a gene which together with the nucleic acid segment of a)ii) comprises a gene comprising an open reading frame which encodes a functional polypeptide;
 - iv) a fourth nucleic acid segment comprising a 3'-inverted terminal repeat of adeno-associated virus;

in a host cell yields a RNA transcript which comprises sequences from the first adeno-associated virus vector linked to sequences from the second adeno-associated virus vector, which sequences are positioned so that the splice donor site is 5' to the splice acceptor site, and which transcript is spliced to a mRNA which encodes the functional protein.

60. (Previously Presented) A composition comprising:

a first adeno-associated virus vector comprising linked:

- a)
 - i) a first nucleic acid segment comprising a 5'-inverted terminal repeat of adeno-associated virus;
 - ii) a second nucleic acid segment comprising a splice acceptor site;
 - iii) a third nucleic acid segment comprising a portion of a gene; and
 - iv) a fourth nucleic acid segment comprising a 3'-inverted terminal repeat of adeno-associated virus;

which first vector, in the presence of a second adeno-associated virus vector comprising linked:

- b)
 - i) a first nucleic acid segment comprising a 5'-inverted terminal repeat of

- adeno-associated virus;
- ii) a second nucleic acid segment comprising a portion of a gene which together with the nucleic acid segment of a)iii) comprises a gene comprising an open reading frame which encodes a functional polypeptide, wherein the portion of the gene of b)ii) includes a transcriptional regulatory region;
 - iii) a third nucleic acid segment comprising a splice donor site;
 - iv) a fourth nucleic acid segment comprising a 3'-inverted terminal repeat of adeno-associated virus;

in a host cell yields a RNA transcript which comprises sequences from the first adeno-associated virus vector linked to sequences from the second adeno-associated virus vector, which sequences are positioned so that the splice donor site is 5' to the splice acceptor site, and which transcript is spliced to a mRNA which encodes the functional protein.